the 6th, and falling heavily during the day, with temperature above 32°, formed puddles over the ice, resulting in a condition dangerous to pedestrians and interruption of traffic service in the large cities. Many persons received injuries from falls. Except in places where it was removed, the ice covering remained for several days.—*L. A. Judkins, Section Director.*

THE HIGH TIDE OF DECEMBER 26, 1909.

The morning tide of December 26, 1909, attending the severe storm of this date on the New England coast, was one of the highest ever recorded in Boston Harbor. At Boston Light the predicted time of high tide was 10:20 a. m. The wind from the late afternoon of the 25th until nearly noon of the 26th, was from the east and northeast over Boston Harbor and Massachusetts Bay, rapidly increasing in force during the evening of the 25th to very high velocities soon after midnight, which continued undiminished through the morning and day of the 26th. At Cape Cod, Highland Light, the velocity at 8 a. m. of the 26th was 48 miles northeast; noon, 72 miles; 2:15 p. m., 84 miles; at 5 p. m., 66 miles, all from the east-northeast, and at midnight it was 60 miles north. At Hull, Mass., the hourly movements on the 26th were as follows: Midnight to 1 a. m., 37 miles; 1 to 2 a. m., 43; 2 to 3 a. m., 46; 3 to 4 a. m., 63; 4 to 5 a. m., 58; 5 to 6 a. m., 60; 6 to 7 a. m., 56; 7 to 8 a. m., 60; 8 to 9 a. m., 54; 9 to 10 a. m., 65; 10 to 11 a. m., 55; 11 a. m. to noon, 48. During the afternoon the velocity ranged between 40 and 50 miles per hour. The maximum velocity at Hull was about 72 miles per hour at 9:35 a. m. At Boston the hourly movements from midnight to noon of the 26th ranged between 25 and 39 miles, the hourly maximum rates between 32 and 45 miles per hour, the latter occurring at 5:10 a. m., from the northeast. The increasing and high wind occurring with the rising tide, together with a high run of tide, caused the water in Boston Harbor to reach approximately the record height of the tide of April 16, 1851, which at the United States Navy Yard was 15.0 to 15.1 feet, the height of the tide of December 26, 1909, being, at the same station, 14.98 feet. In general, the tide in Boston Harbor and Massachusetts Bay was approximately 3.5 feet above the predicted height. The actual height, as given by the United States Engineers and other reliable authorities at the following places, was as follows: Newburyport, Mass., Harbor, Black Rock Wharf, 12.68 feet; Sandy Bay, Rockport Harbor, 13.64; Boston Harbor, Deer Island, 14.56; Plymouth Harbor, 14.8; Barnstable Bay, 13.25; Provincetown Harbor, 14.35. The tide at all of these stations, with the exception of Plymouth and Barnstable, was approximately 5 feet above mean high water.

The high water caused great damage to water-front and shore property in many places, by the flooding of cellars, and by washouts. The greatest damage occurred in portions of Chelsea and Everett, Mass., where the breaking of a dike permitted the tide to cover a large residential section to a depth of several feet, causing the death of two persons and temporarily driving several thousand persons from their homes.—*J. W. Smith, District Forecaster.*

THE WEATHER AND THE PLANT PATHOLOGIST.

By DONALD REDDICK, Assistant Professor of Plant Pathology, New York State College of Agriculture.

Since the more or less accidental discovery of Bordeaux mixture in 1882 in France, the science of preventive medicine as applied to plants has made rapid strides. Plant pathologists have found in looking into the life histories of many fungous parasites affecting our cultivated plants and producing rusts, blights, rots, or mildews, that the spores of the fungus which produce new infections most often get their start in the moisture and favorable conditions which are furnished by a rain. This is the reason that many of these diseases are incorrectly attributed to the weather. The fungus is directly dependent upon weather conditions. There must not only be rain, but foggy or cloudy weather also, so that the drops will not dry up before the fungous spore sprouts, grows, and becomes established. At the present time it has come that a plant pathologist who goes to the field, vineyard, or orchard to investigate a disease is as sure to take with him meteorological instruments as he is the microscope, and the daily weather maps are indispensible. If he is spraying to prevent one of these diseases he uses a spray which will not wash off in rain water and applies it a day or so before the rain, which, from his study of the weather maps, he suspects will come. The progressive grower, too, is coming to appreciate these facts and as a result is having better success in controlling these diseases.

The cause of some plant diseases remains in doubt for a long time though they are often of great importance and are much discussed in agricultural meetings. In such meetings a common name is used in referring to the disease, but unfortunately a single common name, e. g., blight, often covers more than one disease. Here the plant pathologist, in working up the history of the distribution and spread of a disease, often finds the old weather records of the greatest value. If one were to find in the transactions of a horticultural society a discussion about and a general discription of a blight of pears which did not seem to quite conform to the generally accepted appearance of fire blight, he might be able to show by consulting meteorological data that this was the fungous leaf blight which is prevalent only in years following a wet spring. Professor Selby, of Ohio, has shown from observations over a period of 7 years that the amount of peach leaf curl, a fungous disease, is directly dependent upon the occurrence of cold, drizzling weather in April, May, or June.

Lately that most elusive of all plant diseases, peach yellows, has been attributed to adverse weather conditions, namely, winter kill and summer drought. This disease is of considerable importance in the State of New York. Thanks to available weather records we need not wait a long period of years to test out this theory. A student should be able to get all the data together in a week and show certainly whether there is really a correlation between weather conditions and epidemics of this dread disease.

The three phases of the weather service herein mentioned are the ones that at the present time seem of greatest importance. As we learn more about our science we shall no doubt be able to make even greater use of the records and forecasts of the weather service.